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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,146

08/15/2006

Kazuko Yamashita

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EXAMINER

TURK, NEIL N

ART UNIT

PAPER NUMBER

1797

NOTIFICATION DATE

DELIVERY MODE

03/18/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/595,146	Applicant(s) YAMASHITA ET AL.	
	Examiner NEIL TURK	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/23/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This Office Action fully acknowledges Applicant's remarks filed on November 5th, 2009. Claims 2-4 are pending. Claim 1 has been canceled. Claims 2 and 4 are withdrawn from consideration. Claim 3 is currently under examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (US 2003/0168392), hereafter Masuda, in view of Jorgenson et al. (5,389,221), hereafter Jorgenson.

Masuda discloses a multi-dimensional liquid chromatography separation system (abstract). Masuda discloses a first analysis system 26 having a first column 6 (one dimensional analysis column) and a trapping system 28 which includes a rotary valve 14 (preparative portion) with a plurality of ports R*, as well as switching valves 12, 13 (collectively as a path switching mechanism as claimed) for selectively and sequentially processing effluent to a plurality of trap columns 15-20, and then selectively processing the effluent/analytes from the various trap columns to a second column 24 (two-

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dimensional analysis column) and then onto a detector 25 (paragraphs [0030-0053], Example 1, figs. 1-5).

Masuda does not specifically disclose that an inside diameter of the two-dimensional analysis column is between 0.03 and 0.30 mm.

Jorgensen discloses a two-dimensional separation system, and discloses that microcolumns (columns with an inner diameter $\leq 250 \mu\text{m}$) have been shown to be considerably more efficient than conventional size columns (lines 45-54, col. 1+).

It would have been obvious to modify Masuda to include the two-dimensional analysis column with an inner diameter between 0.03 and 0.30 mm such as taught by Jorgensen as such would provide a more efficient separation column in the form of a microcolumn.

Response to Arguments

Applicant's arguments filed November 5th, 2009 have been fully considered but they are not persuasive.

With regard to the combination of Masuda and Jorgensen (previously supplied to reject claim 3 under 35 USC 103(a)), Applicant notes that Masuda discloses a multi-dimensional liquid chromatography separation system in which all of the separation means are liquid chromatography. Applicant further notes that Jorgensen discloses liquid chromatography coupled with CZE (different separation means). Applicant thereby argues that the configurations of the separation systems of Masuda and Jorgensen are different from each other, and as such, combination of the two to utilize

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the particularly-sized microcolumns of Jorgenson in the system of Masuda would not have been obvious.

Examiner argues that the disclosure of Jorgenson has not been relied upon for teaching a same multi-dimensional separation system in which all the separation means are of a single type. On the other hand, the disclosure of Jorgenson is drawn to analogous subject matter of a separation system in which Jorgenson discloses that the usage of microcolumns (used in liquid chromatography; see lines 45-60, in which Jorgenson notes microcolumn liquid chromatography) have been shown to be more efficient than conventional size columns. Here, Jorgensen speaks to a previous difficulty in engineering microcolumn liquid chromatography to be interfaced for use with CZE, and sets out to design a novel interface. The disclosure of Jorgensen remains to provide that use of microcolumns provide to be considerably more efficient than conventional columns. Examiner thereby asserts that the usage of microcolumns of the dimensions provided in the rejection is not restricted to the case in which different types of separations means are included. Examiner maintains that the combination of Masuda in view of Jorgensen provides an obvious combination for the reasons discussed above. Here, Examiner notes that in view of Applicant's amendments to the claims (so as to incorporate the limitations of now-canceled claim 1 into claim 3), a new grounds of rejection has been supplied so as to reject claim 3 under 35 USC 103(a) as being unpatentable of Masuda in view of Jorgenson.

With regards to claims 1 and 3 rejected under 35 USC 103(a) over Yamazaki in view of Sumiyoshi and Jorgensen, Applicant's arguments are persuasive and the rejection of the claims has been removed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEIL TURK whose telephone number is (571)272-8914. The examiner can normally be reached on M-F, 9-630.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NT

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797